

REMARKS

Status of Claims

Claims 8-11, 13, 15 and 17-27 are pending in this application, the independent claims being claims 8, 13, 15 and 22. By this Amendment, claims 8, 13, 15 and 22 are amended, and claims 23-27 are newly presented. Claims 1-7, 12, 14 and 16 previously were canceled.

Summary of the Official Action

In the Official Action, claims 8-10, 15, 17, 19, 20 and 21 were rejected under 35 U.S.C. §102(e), as anticipated by of U.S. Patent No. 6,204,877 (Kiyokawa); claim 11 was rejected under 35 U.S.C. §103(a), as unpatentable over the Kiyokawa '877 patent in view of U.S. Patent No. 6,538,692 (Niwa); claims 18 and 22 were rejected under 35 U.S.C. §103(a), as unpatentable over the Kiyokawa '877 patent in view of U.S. Patent No. 6,788,332 (Cook); and claim 13 was rejected under 35 U.S.C. § 103(a), as unpatentable over U.S. Patent No. 6,297,870 (Nanba), in view of U.S. Patent No. 5,928,347 (Jones) and U.S. Patent No. 5,956,084 (Moronaga).

Reconsideration and withdrawal of the rejections respectfully are requested in view of the above amendments and the following remarks.

Amended Claims

The rejections of the claims over the cited art respectfully are traversed. Nevertheless, without conceding the propriety of the rejections, independent claims 8, 13, 15 and 22 have been amended herein more clearly to recite various novel aspects of the claimed invention, with particular attention to the Examiner's comments. Newly presented claims 23-27 depend from independent claims 8, 15 and 22, and have been added to provide additional scope of protection commensurate with the disclosure. Support for the amendments may be found in the original application, e.g., at page 18, line 20 to page 19, line 4, page 40, lines 5-10 and

page 51, line 10. In particular, newly presented claim 24 recites features similar to the features previously recited in pending claim 13. No new matter has been added.

Response to Outstanding Rejections

The rejections of the claims over the cited art respectfully are traversed. The present invention relates to a novel image-capturing device and electronic camera. Independent claims 8, 13, 15 and 22 relate to four aspects of the claimed invention.

A. Claimed Invention

In one aspect, as recited in independent claim 8, the claimed invention relates to an image-capturing device comprising an image sensor that captures a subject image and generates image data, an operation member that is operated by a user to cause the image sensor to capture a subject image and generate image data, a memory, and an image storage control unit. The image storage control unit controls transfer of image data, and is operable in a communication mode, to automatically transfer the image data generated by the image sensor in response to operation of the operation member by the user from the image-capturing device to an external device via a communication circuit capable of communicating with the external device to store the image data in the external device, and when communication with the external device is disabled, to transfer the image data generated by the image sensor to the memory, so that the operation member can be operated to capture a next subject image. In a preferred embodiment, as recited in newly presented dependent claim 23, the image-capturing device further comprises a mode setting unit that sets operation of the image-capturing device in the communication mode in which the image data generated by the image sensor in response to operation of the operation member by the user is automatically transferred to the external device to store the image data in the external device.

In another aspect, independent claim 15 recites similar features with respect to an electronic camera that uses a wireless communication circuit to transfer image data generated

by the image sensor, in response to operation of the operation member by a user, to an external device by wireless communication, wherein, when wireless communication with the external device is disabled, the image data generated by the image sensor is transferred to the memory so that the operation member can be operated to cause the image sensor to capture a next subject image. In a preferred embodiment, as recited in newly presented dependent claim 26, the image-capturing device further comprises a mode setting unit that sets operation of the electronic camera in the communication mode in which the image data generated by the image sensor in response to operation of the operation member by the user is automatically transferred to the external device to store the image data in the external device.

In another aspect, independent claim 22 recites similar features with respect to an image-capturing device, further comprising a setting unit that sets either the memory or an external device as a storage device where the image data is to be stored, and a wireless communication circuit, wherein, when the external device is set as the storage device and wireless communication with the external device is disabled, image data is transferred to the memory so that the operation device can be operated to cause the image sensor to capture a next subject image.

In each of these aspects (claims 8, 15 and 22), in one operation mode the image storage control unit (1) transfers image data generated by the image sensor, in response to operation of the operation member by a user, from the image-capturing device/electronic camera to an external device, and (2) when communication to the external device is disabled (wireless communication in claims 15 and 22), transfers the image data generated by user operation of the image sensor to a local memory, so that the operation device can be operated to cause the image sensor to capture a new subject image. This image data transfer control feature provides a significant advantage over prior art systems in which a user operates an image capture device remote from an external device, in that it effectively utilizes internal

and external memory to save the image data of a first subject image and permit capture of a next subject image in a case when communication with the external device is disabled.

In another aspect, as recited in independent claim 13, the claimed invention relates to an image-capturing device comprising an image sensor that captures a subject image and generates image data, a connection unit that electrically, detachably, selectively and exclusively connects to a main body of the image capture device either a portable memory or a wireless communication circuit capable of wirelessly communicating with an external device, a detection unit that detects whether or not the wireless communication circuit is connected at the connection unit, and an image storage control unit. The image data control unit controls the transfer of image data, to automatically and directly transfer the image data generated by the image sensor to the portable memory if the portable memory is connected at the connection unit, or to automatically and wirelessly transfer the image data generated by the image sensor to the external device via the wireless communication circuit when the detection circuit detects that the wireless communication circuit is connected at the connection unit.

In this aspect (claim 13), the connection unit is capable of being selectively and exclusively connected to either a portable memory or a wireless communication circuit, and the image storage control unit automatically stores image data captured/generated by the image sensor in either the portable memory or in an external device via the wireless communication circuit connected to the connection unit. This image data transfer control feature provides a significant advantage over prior art systems in that it increases options in an efficient, portable, image-capturing device.

B. Prior Art Distinguished

Applicant submits that the prior art fails to anticipate the claimed invention. Moreover, Applicant submits there are differences between the subject matter sought to be

patented and the prior art, such that the subject matter taken as a whole would not have been obvious to one of ordinary skill in the art at the time the invention was made.

Claims 8-11, 15 and 17-27

The Kiyokawa '877 patent relates to an electronic image pickup system for transmitting image data by remote control, and discloses an electronic image pickup system including a master side electronic camera and a slave side electronic camera, where a user operates the master side electronic camera so as to transmit operation data to the slave side electronic camera to remotely control a camera photographing operation by the slave side electronic camera, and the slave side electronic camera transmits a picked-up image signal to the master side electronic camera to display the image signal on an electronic viewfinder of the master side electronic camera. However, Applicant submits that the Kiyokawa '877 patent fails to disclose or suggest at least the above-discussed features of the claimed invention.

Initially, as acknowledged by the Examiner, nowhere does the Kiyokawa '877 patent disclose or suggest the feature of wireless communication of image data to an external device, as disclosed in the present application and recited in claims 15 and 22.

Applicant submits that the Kiyokawa '877 patent also fails to disclose or suggest at least the features of automatically transferring image data generated by an image sensor, in response to operation of an operation member by the user, from the image-capturing device/electronic camera to an external device to store the image data in the external device, and when communication with the external device is disabled, to transfer image data generated by the image sensor to a local/internal memory, so that the operation member can be operated to cause the image sensor to capture a next subject image, as disclosed in the present application and variously recited in claims 8, 15 and 22.

Applicant submits that the Kiyokawa '877 fails to disclose or suggest the claimed image capture device/electronic camera comprising an operation member that is operated by a user to cause an image sensor to capture a subject image and automatically transmit image data generated by the image sensor from the image-capturing device/electronic camera to an external device. Rather, the Kiyokawa '877 system includes two electronic cameras each having an operation member that, if/when the cameras are operating independently, operates to cause an image sensor of that electronic camera to capture an image signal. However, in the disclosed system, when an electronic camera of the Kiyokawa '877 patent is operating as a slave side electronic camera (as applied to claims 8, 15 and 22 of the present application), it does NOT include an operation member that the user operates to cause the image sensor to capture an image signal; rather, the slave side electronic camera performs an image capture operation to capture and generate an image signal in accordance with operation data communicated to the slave side electronic camera from the master side electronic camera. Specifically, the Kiyokawa '877 patent discloses

"an electronic still camera on the master side transmits operation data for defining a photographing operation in accordance with an operation with respect to the camera on the master side to an electronic still camera on the slave side. The electronic still camera on the slave side receives the operation data from the master side, and performs a photographing operation corresponding to the operation data. The electronic still camera on the slave side transmits a picked-up image signal to the electronic still camera on the master side to display the image signal on the electronic viewfinder of the electronic still camera on the master side."

(see Abstract; see also column 7, lines 51-55, column 9, lines 21-23, Fig. 5 and Fig. 8).

Nowhere is the Kiyokawa '877 patent understood to disclose or suggest that a slave side electronic camera operation member is operated by a user to cause the image sensor to capture an image signal, let alone to generate an image signal to be automatically transmitted to an external device, as disclosed in the present application and recited in claims 8, 15 and 22.

Also, nowhere is the Kiyokawa '877 patent understood to disclose or suggest what happens if, or when, communication with the external device is disabled. In this regard, the citations to the Kiyokawa '877 patent and the comments made by the Examiner in the Official Action are inapposite to this claim feature. The Examiner cites the Kiyokawa '877 patent as teaching that the camera on the master side transmits a transmission stop command to the slave side camera, and that the slave side camera performs control by stopping transmission of the image data. Indeed, the Kiyokawa '877 patent teaches that, in the slave side electronic camera, at step S52, the system controller 20 checks whether the slave side electronic camera has received an image data transmission stop command (which is transmitted from the master side electronic camera); if the slave side electronic camera has received an image data transmission stop command, then at step S53 the system controller 20 performs a control operation to stop image data transmission. However, this does NOT teach what happens if, or when, **communication** between the master side camera and the slave side camera is disabled. In this example of the Kiyokawa '877 patent system, the master side camera and the slave side camera continue to communicate - that is, the master side camera is still capable of communicating further control information to the slave side camera, and the slave side camera is still capable of communicating with the master side camera (e.g., processing other command and control information from the master side camera). The citations merely teach that the slave side camera stops transmitting image data to the master side camera in response to a stop transmission command.

Applicant submits that **the Niwa '692 patent** fails to remedy the deficiencies of the Kiyokawa '877 patent. The Niwa '692 patent relates to a dynamic storage control method and system, and was cited for its alleged disclosure of an image storage control unit that detects whether or not a storage capacity of an external device is sufficient, and keeps image data for local storage if the storage capacity of the external device is detected to be insufficient.

Without conceding the propriety of the Examiner's characterizations of the Niwa '692 patent, Applicant submits that the Niwa '692 patent fails to disclose or suggest at least the above-discussed features of the claimed invention. Nowhere is the Niwa '692 patent understood to disclose or suggest at least the features of an image storage control unit that controls transfer of image data, in response to operation of an operation member by a user, to automatically transfer image data generated by an image sensor/image-capturing device/electronic camera to an external device to store the image data in the external device, and when communication with the external device is disabled, to transfer image data generated by the image sensor to a local/internal memory, so that the operation member can be operated to cause the image sensor to capture a next subject image, as disclosed in the present application and variously recited in claims 8, 15 and 22. Nor is the Niwa '692 patent understood to add anything to the Kiyokawa '877 patent that would make obvious the claimed invention.

Applicant submits that **the Cook '332 patent** also fails to remedy the deficiencies of the Kiyokawa '877 patent. The Cook '332 patent relates to a wireless imaging device and system, and was cited for its alleged disclosure of a wireless communication medium. Without conceding the propriety of the Examiner's characterizations of the Cook '332 patent, Applicant submits that the Cook '332 patent fails to disclose or suggest at least the above-discussed features of the claimed invention. Nowhere is the Cook '332 patent understood to disclose or suggest at least the features of an image storage control unit that controls transfer of image data, in response to operation of an operation member by a user, to automatically transfer image data generated by an image sensor/image-capturing device/electronic camera to an external device to store the image data in the external device, and when communication with the external device is disabled, to transfer image data generated by the image sensor to a local/internal memory, so that the operation member can be operated to cause the image sensor to capture a next subject image, as disclosed in the present application and variously

recited in claims 8, 15 and 22. Nor is the Cook '332 patent understood to add anything to the Kiyokawa '877 patent and/or the Niwa '692 patent that would make obvious the claimed invention.

Claim 13

The Nanba '870 patent relates to a photographing apparatus, method for recording an image by the photographing apparatus, and method for reproducing an image by the photographing apparatus. The Nanba '870 patent discloses a system including a photographing apparatus (camera) that can transfer an image to an image processing apparatus (PC) with a first recording medium (hard disk HD), or to a second recording medium (memory card 8) detachably provided to the photographing apparatus. Thus, the Nanba '870 patent discloses a photographing apparatus (camera) system including a slot 17 for receiving a memory card 8 (column 3, line 19; Fig. 3) **and** a USB communication I/F 213 (column 6, lines 1-3) for connection with a PC. However, Applicant submits that the Nanba '870 patent fails to disclose or suggest at least the above-discussed features of the claimed invention. Rather, in the Nanba '870 patent, the memory card slot 17 and the USB I/F 213 are provided separately. Nowhere is the Nanba '870 patent understood to disclose or suggest the combination of features of an image-capturing device comprising a connection unit that electrically, detachably, *selectively and exclusively* connects to a main body of the image-capturing device *either* a portable memory *or* a wireless communication circuit capable of wirelessly communicating with an external device, a detection unit that detect whether or not the wireless communications circuit is connected a the connection unit, and an image storage control unit that controls transfer of image data, to automatically and directly transfer the image data from a buffer memory to a portable memory if the portable memory is connected at the connection unit, or to automatically and wirelessly transfer the image data from the buffer memory to the external device via the wireless communication circuit when the

detection unit detects that the wireless communication circuit is connected at the connection unit, as disclosed in the present application and recited in claim 13.

Applicant submits that **the Jones '347 patent** fails to remedy the deficiencies of the Nanba '870 patent. The Jones '347 patent relates to a universal memory card interface apparatus, and illustrates in Fig. 2 a memory card player/recorder 10 that receives various forms of memory cards 52,62 and includes various interface devices 112, 122, 132, 142, 152. However, Applicant submits that the Jones '347 patent fails to disclose or suggest at least the above-discussed features of the claimed invention. Rather, the Jones '347 patent discloses a memory card player/recorder that has separate, individual connectors 50, 60 for separate, individual memory cards, and various device interfaces 114, 124, 134, 144, 154, etc., for respective external devices 112, 122, 132, 142, 152, etc. Jones does not disclose or suggest that either a memory or a device interface is selectively and exclusively connected. In fact, Applicant submits that the infrared interface 124 illustrated in Fig. 2 and cited by the Examiner is fixed, not electrically detachable, let alone selectively and exclusively detachable. Nowhere is the Jones '347 patent understood to disclose or suggest the features of a connection unit that electrically, detachably, selectively and exclusively connects to a main body of the image-capturing device either a portable memory or a wireless communication circuit capable of wirelessly communicating with an external device; nor is it understood to disclose or suggest the features of a detection unit that detects whether or not the wireless communication circuit is connected at the connection unit, and an image storage control unit that controls transfer of image data, to automatically and directly transfer image data generated by the image sensor to the portable memory if the portable memory is connected at the connection unit and to automatically and wirelessly transfer image data generated by the image sensor to the external device via the wireless communication circuit if the detection unit detects that the wireless communication circuit is connected at the connection unit, as

disclosed in the present application and recited in claim 13. Nor is the Jones '347 patent believed to add anything to the Nanba '870 patent that would make obvious the claimed invention.

Applicant submits that **the Moronaga '084 patent** fails to remedy the deficiencies of the Nanba '870 patent and/or the Jones '347 patent. The Moronaga '084 patent relates to an electronic still-video camera, and playback apparatus therefore, being capable of storing image data when the storage capacity of a memory card is exceeded. However, Applicant submits that the Moronaga '084 patent fails to disclose or suggest at least the above-discussed features of the claimed invention. The Moronaga '084 patent merely is cited for its alleged disclosure of an electronic still video camera having an internal RAM to be directly transferred automatically to an external RAM via a switch when an internal frame is full. Without conceding the propriety of the Examiner's characterization, Applicant submits that the Moronaga '084 patent fails to remedy the above-discussed deficiencies of the Nanba '870 patent and the Jones 347 patent, or add anything thereto that would make obvious the claimed invention.

For the above reasons, Applicant submits independent claims 8, 13, 15 and 22 are allowable over the prior art.

Claims 9-11 and 17-27 depend from independent claims 8, 15 and 22, and are believed allowable for the same reasons. Moreover, each of these dependent claims recites additional features in combination with the features of its respective base claim, and is believed allowable in its own right. Individual consideration of the dependent claims respectfully is requested.

Entry Under 37 C.F.R. 1.116

Entry of the amendments is proper under 37 CFR §1.116 since the amendments: (a) place the application in condition for allowance (for the reasons discussed herein); (b) do not raise any significant new issue requiring further search and/or consideration (as the amendments to the independent claims merely amplify issues previously discussed throughout prosecution); (c) satisfy a requirement of form asserted in the previous Office Action; (d) merely add a limited number of new dependent claims; and (e) place the application in better form for appeal, should an appeal be necessary. The amendments are necessary and were not earlier presented because they are made in response to arguments raised in the final rejection. Entry of the amendments is thus respectfully requested.

Conclusion

Applicant believes the present Amendment is responsive to each of the points raised by the Examiner in the Official Action, and submits that this application is in condition for allowance. Reconsideration of the claims and passage to issue of the application at the Examiner's earliest convenience earnestly are solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

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